My experience of random width slating in diminishing courses [graduated slating in American terms] differs from that of American slaters. Here in England the slates arrive in crates of random widths and lengths. The first job is to sort them to size according to their lineal (horizontal) measure in inches. For example, you will need 805" of 20" slates. You have 2,079" in stock. After subtracting 805", you now have 1,274" remaining for other slopes. A word of warning, Always plan to have a few slates of each size left over as spares.

Now carry out this operation for each length of slate, you’ll find that the average width diminishes along with the length. As an example, on one job that I did recently the slates ran from 20" to 12" in 1" drops, giving you nine lengths in total. The average width of ten slates, adding them together, then dividing by 10. Then multiply by the number of slates in that size. For example, start with your largest slate, lets say 22", you have 150 of them. Measure the total width of ten slates; lets say it is 1800". Divide by 10 equals an average width of 12". Multiply by 150 slates equals 1,800".

Now carry out this operation for each length of slate, you’ll find that the average width diminishes along with the length. As an example, on one job that I did recently the slates ran from 20" to 12" in 1" drops, giving you nine lengths in total. The average width of the 20’s was 12 1/2" and that of the 12s was 9". What you end up with in your notebook is a list of slate lengths and their lineal (horizontal) measure in inches. For example, you may have 2,079" of 20" slates, 1,500" of 19" slates, 4,175" of 18" slate, 2,308" of 17" slate, etc.

Using your roof measurements, work out how many courses of each size you have for each slope, and as you allocate them, subtract them from your list. For example, on one slope you will need 805" of 20" slates. You have 2,079" in stock. After subtracting 805", you now have 1,274" remaining for other courses. A word of warning, Always plan to have a few slates of each size left over as spares.

Now comes the important part, working out the lathing gauge for diminishing courses [Editor’s note: In the UK, slate is installed on battens or lath — strips of wood spaced to allow for the nailing the slate. Since the distance between the nailed courses decreases on the way up a diminishing course, this is referred to as exposure (the visible part of the slate when laid, referred to as exposure in the U.S.) will decrease nicely up the slope. One of the worst sights you can see in diminishing course work is a margin [exposure] in one course bigger than the margin in the course below. All these measurements are written into my notebook on the job. I also use a lath board the same length as the roof rafter to mark each gauge onto it as I work out the measurements. That way, I know when I’ve reached the ridge board.

Now you’ve got all the information you need to install the slate laths to the roof. After that, the slates can be holed and brought up to roof level for laying. [Editor’s note: In the U.S., slate roofs are typically installed on solid board decks, not lath, so no lath gauging is necessary, and the slates are “holed” (punched for nail holes) at the quarry when manufactured, so holing on-site is not needed.]

The above-mentioned method of calculating the gauge works just as well no matter what the drop in sizes may be. I’ve worked on stone roofs where I’ve had to drop 5” from one course to the next; it went like this (Figure 2). Now, if you look down the Actual gauge (A/G) column you will see that the gauges are bouncing around all over the place, but rest assured that the margins and laps will be correct.

Michael Hill started an apprenticeship in slating and tiling in 1965. Still working for the same company, he is currently re-roofing the Bowes Museum, County Durham, U.K.